Towards Sustainable Production and Consumption: reflections on progress and blocks

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This talk

- The purpose of EU
- The meaning of public health in C 21st
- The issue of power
- What vision / direction?

1. The European project and food

1957-2017

The European Project 1957-2017

- THEN
  - ashes of World War 2
  - Cold War
  - A ‘civilising project’ in bipolar political world:
    - capitalist-socialist / East – West
- NOW
  - From 6 to 28 → 27 Member States → ?
  - New Cold War / Multi-polar world?
  - Populism and purpose?
  - EU as market or civilisation?

Food as central to this: 1940s Productionist Paradigm

after: Lang & Heasman (*2004/2015) Food Wars* Routledge Earthscan

Science + capital → output → distribution - waste → cheaper food → health

= progress

Key role for the state

- THEN
  - Funder / investor - subsidies
    - Common Agricultural Policy / Stresa Conference
  - Moderniser: living
  - Output = good for health
- NOW
  - Mixed state: QE but …
  - Power of TNCs
  - ‘partnership’ politics

2. What Europe ought to aim for

New thinking from the margins

Multi-criteria approach

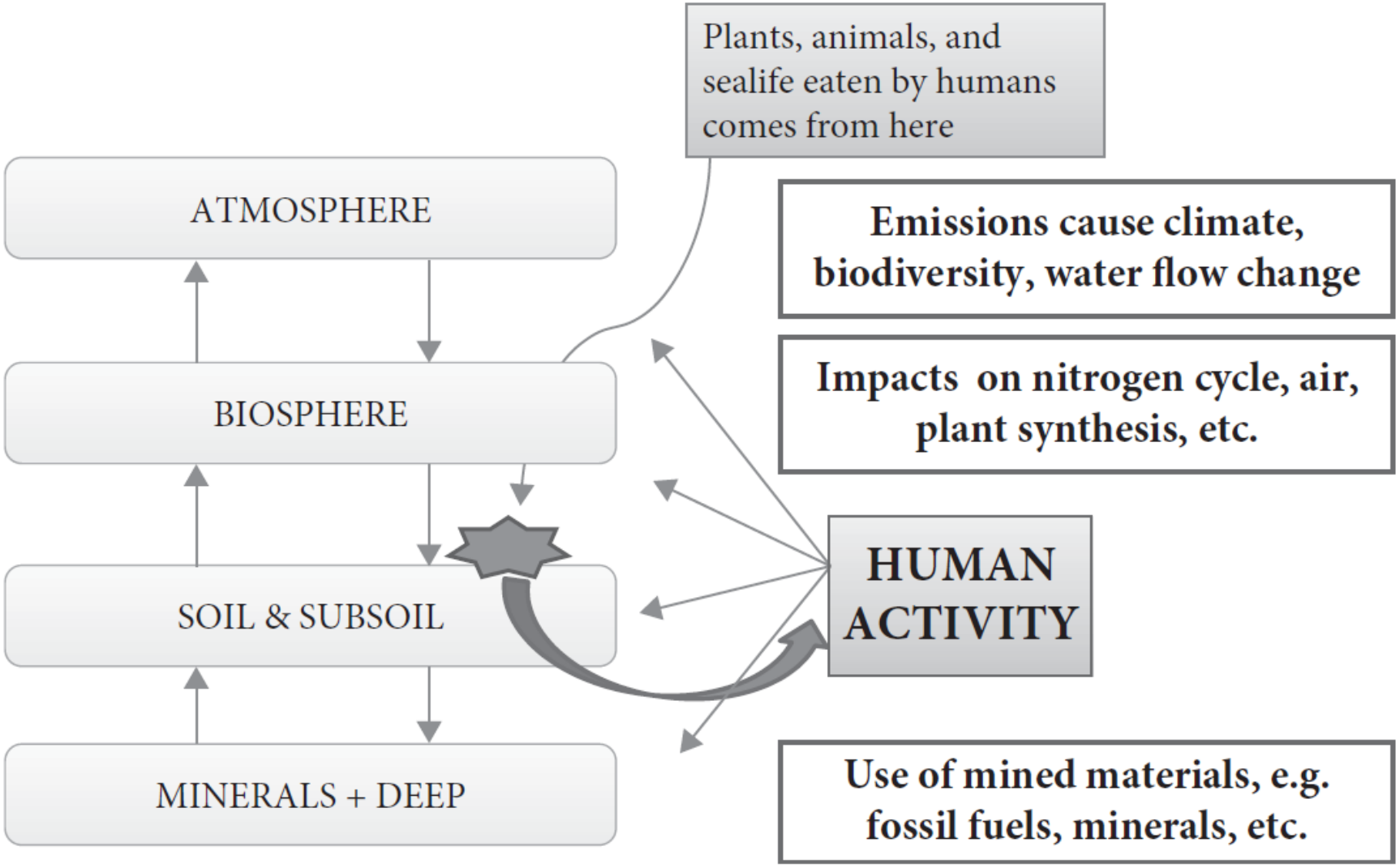
Systems thinking

Divided food system

Rich	Poor
Developed	Developing
Ecosystems health	Human health
Over-consumption	Mal- / under-consumption
Under-production	Over-production
Maldistribution	Fair distribution
Skilled	De-skilled
High wage	No or Low Wage
Consumer	Citizen
Primary producer	Retailer / trader
TNCs	SMEs

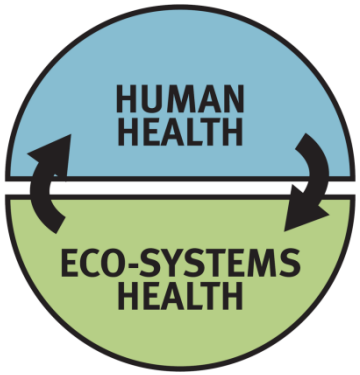
How human activity affects ecosystems on which food and we depend

Source: Lang & Mason (2017) in *Essentials of Nutrition*, OUP



What the EU ought to do

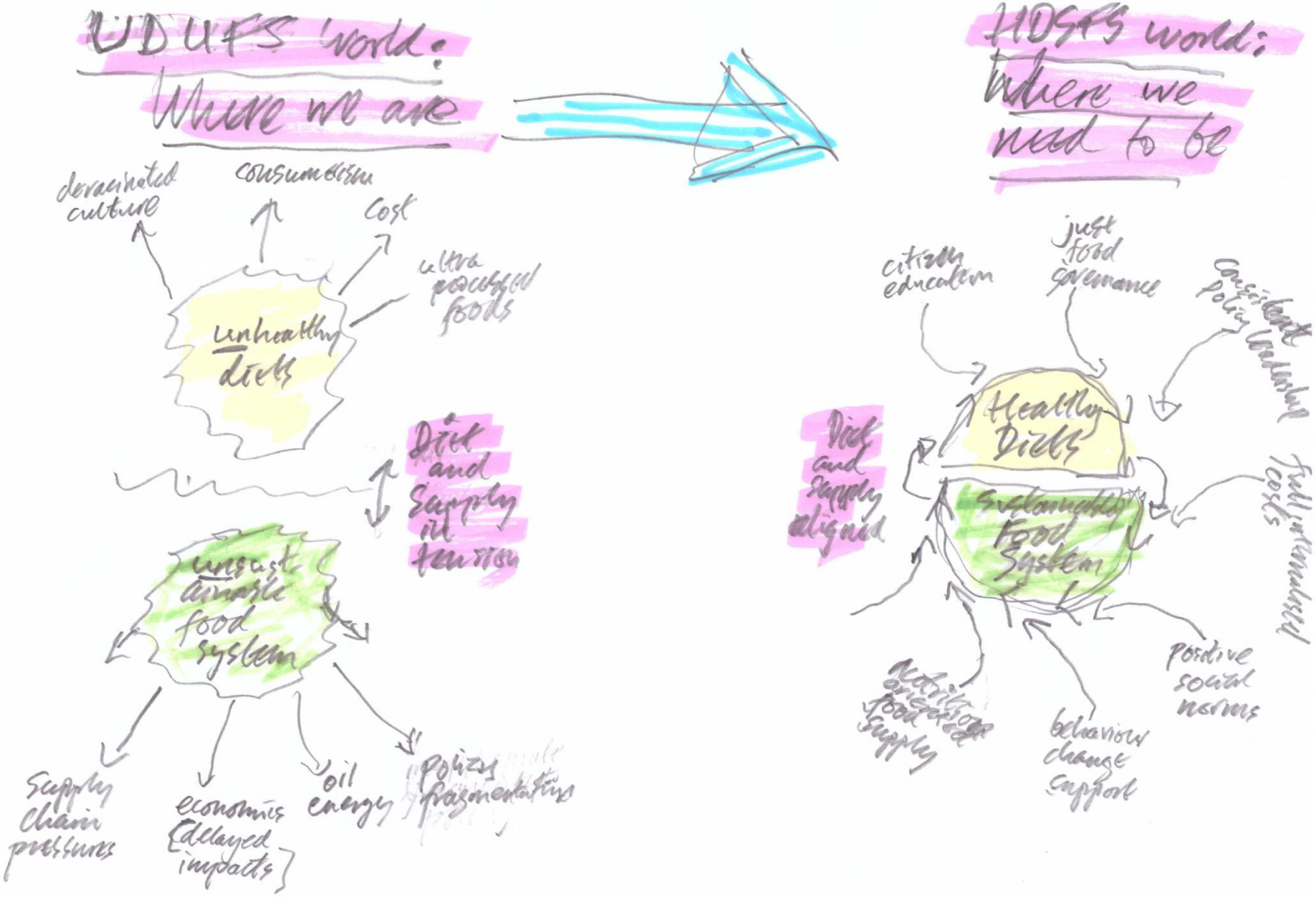
- New Ecological Public Health vision
  - Link human and ecosystems health
- Redefine progress
  - Europe as a civilising project
- Food Systems thinking
  - Change the conditions in which people live
- Food as vehicle and test case for this
  - E.g. packaging as health good → pollution



Food System Activities and Environmental Concerns

Example contributions of FSAs to Env	Producing food	Processing & Packaging food	Distributing & Retailing food	Consuming food
Climate change	GHG emissions, albedo	Factory emissions	Emissions from transport and cold chain	GHGs from cooking
N cycle	Fertilisers	Factory effluent	NOx from transport	Waste
P cycle	Fertilisers	Detergents		Waste
Fresh water use	Irrigation	Washing, heating, cooling	Cleaning food	Cooking, cleaning
Biodiversity loss	Deforestation, soils, fishing. monocultures	Paper/card Metal mining	Invasive spp	Consumer choices
Atmos. aerosols	Deforestation, tillage		Shipping	Smoke from cooking
Chemical pollution	Pesticides	Factory effluent	Transport emissions	Cooking, cleaning

***From* Unhealthy Diets from Unsustainable Food Systems (UDUFS) world**
***To* Healthy Diets fr0m Sustainable Food Systems (HDSFS) world**



3. The issue of power

Food companies: servants / masters?

Food companies' vulnerabilities

Global Food Cos emerge: C19th→C 21st

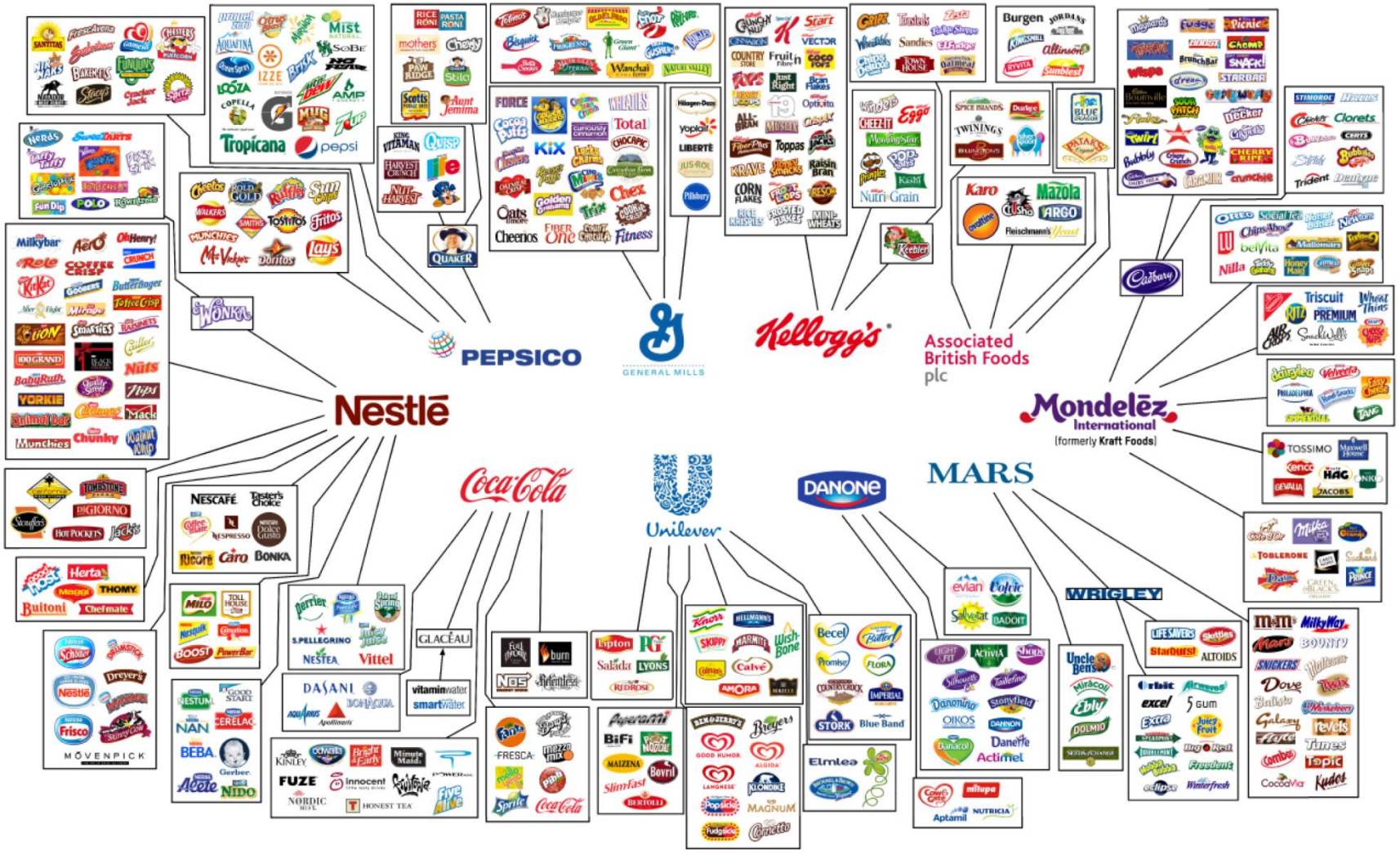
- Some brands are old:
  - Nestlé (1866), Unilever (Van Den Berg 1875, Lever Bros 1899, Unilever 1929), J Sainsbury (1869)
- Some new to food:
  - WalMart (1962; starts food 1987), Aldi (1962) M&S (1884; food 1931)
- Big get bigger:
  - Top 10 food manufacturing = $450 bn revenue
  - = 15% global sales
  - Nestlé, Kraft/Mondelez, Unilever, Pepsico, Mars, Danone, General Mills, Kelloggs, ABF, CocaCola
  - http://fairtrade-advocacy.org/images/Whos_got_the_power-full_report.pdf

EU food manufacture

source: FDE *Data & Trends 2016*

- 289k food manufacturers in EU
- €1.089 bn turnover
  - 3k big Food Cos have:
    - 49% of market
    - 0.9% of companies
  - 286k SMEs have:
    - €538 bn turnover
    - 51% of market
    - 99.1% of companies

Global concentration / ownership

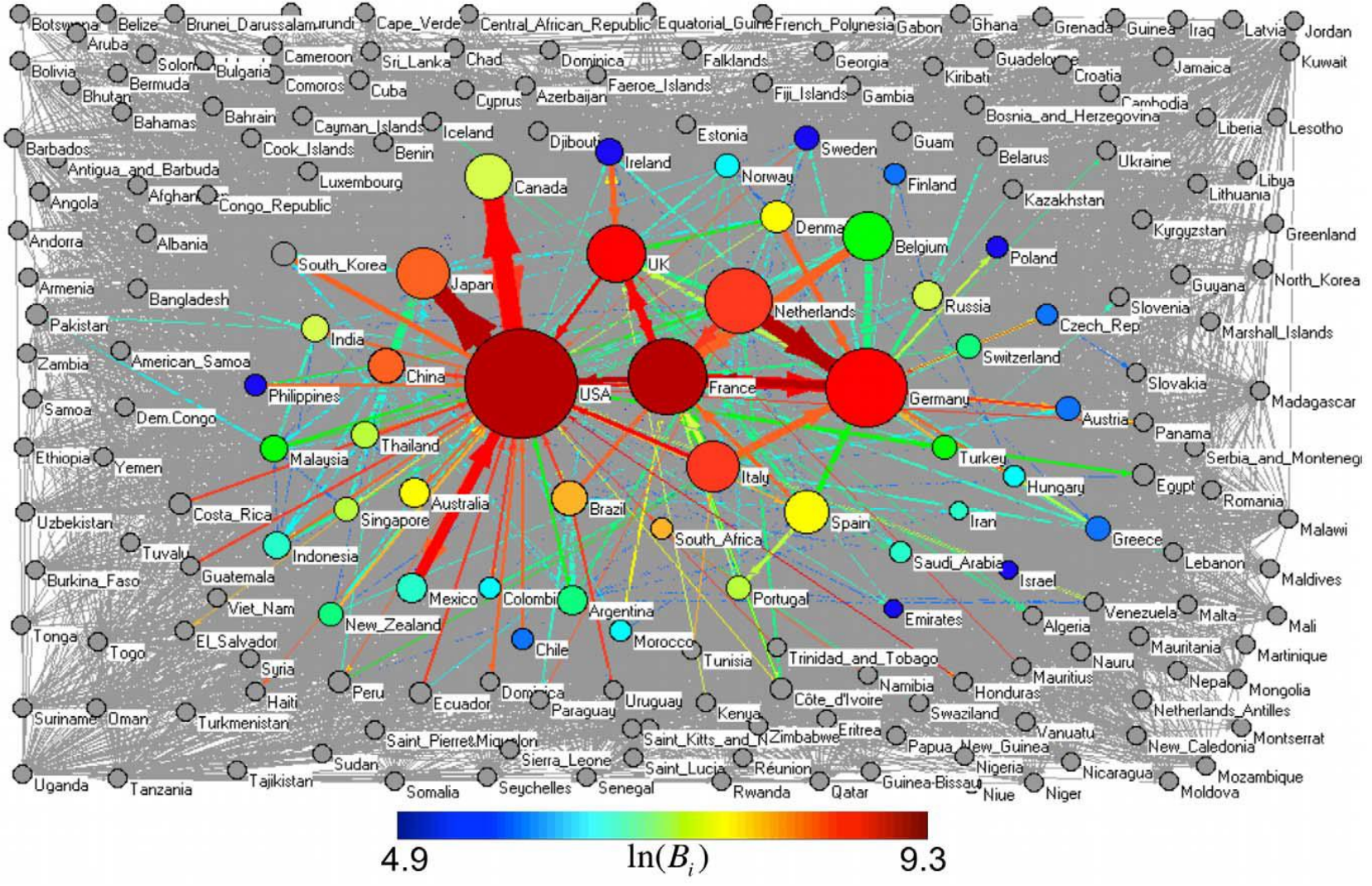


Main brands owned by the largest food and beverage companies

Source: Oxfam, Behind the brands, 2013 (http://www.behindthebrands.org)

The complete International Agro-Food Trade Network in 1998

Source: Ercsey-Ravasz et al 2012 *PloS ONE* doi:10.1371/journal.pone.0037810.g004

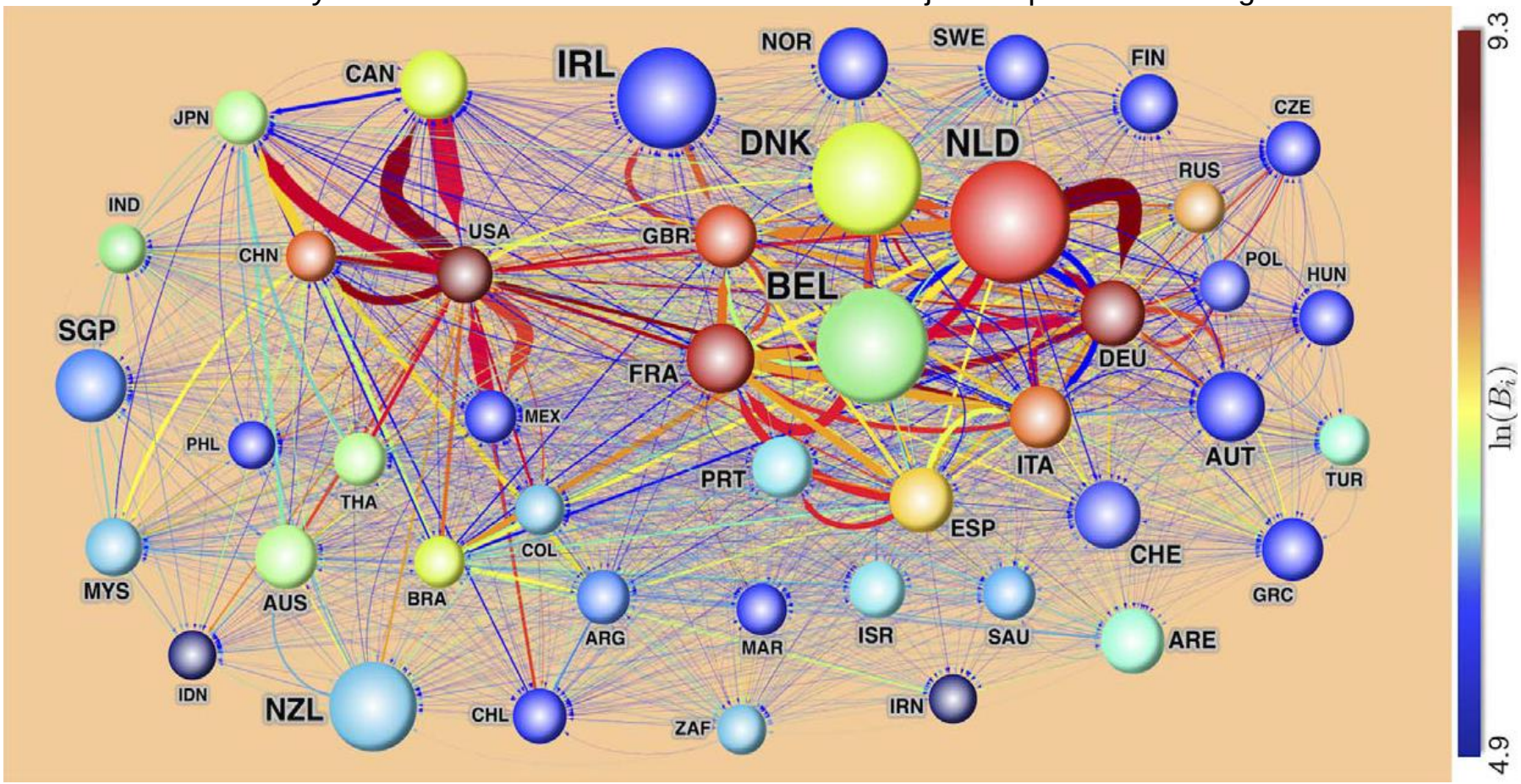


Ercsey-Ravasz M, Toroczkai Z, Lakner Z, Baranyi J (2012) Complexity of the International Agro-Food Trade Network and Its Impact on Food Safety. PLoS ONE 7(5): e37810. doi:10.1371/journal.pone.0037810

http://journals.plos.org/plosone/article?id=info:doi/10.1371/journal.pone.0037810

The ‘backbone’ (ie heartlands) of the International Agro-Food Trade Network in 1998

Source: Ercsey-Ravasz et al 2012 PloS ONE doi:10.1371/journal.pone.0037810.g004



Note: The backbone of the IFTN based on the 2007 dataset. The backbone is formed by the top 44 nodes (countries) with the largest total trade activity (import+export). Nodes and edges are both colored by their betweenness values; the thickness of the directed edges is proportional to the natural logarithm of the trade value in that direction, as in Fig. 2. The size of a node, in this figure, is proportional to the logarithm of the per capita trade activity, i.e. ln[(Ei+Ii)/Pi] where Pi is the population size of the country i. Countries are labeled by their 3-letter ISO 3166 codes.

4. What room for manoeuvre?

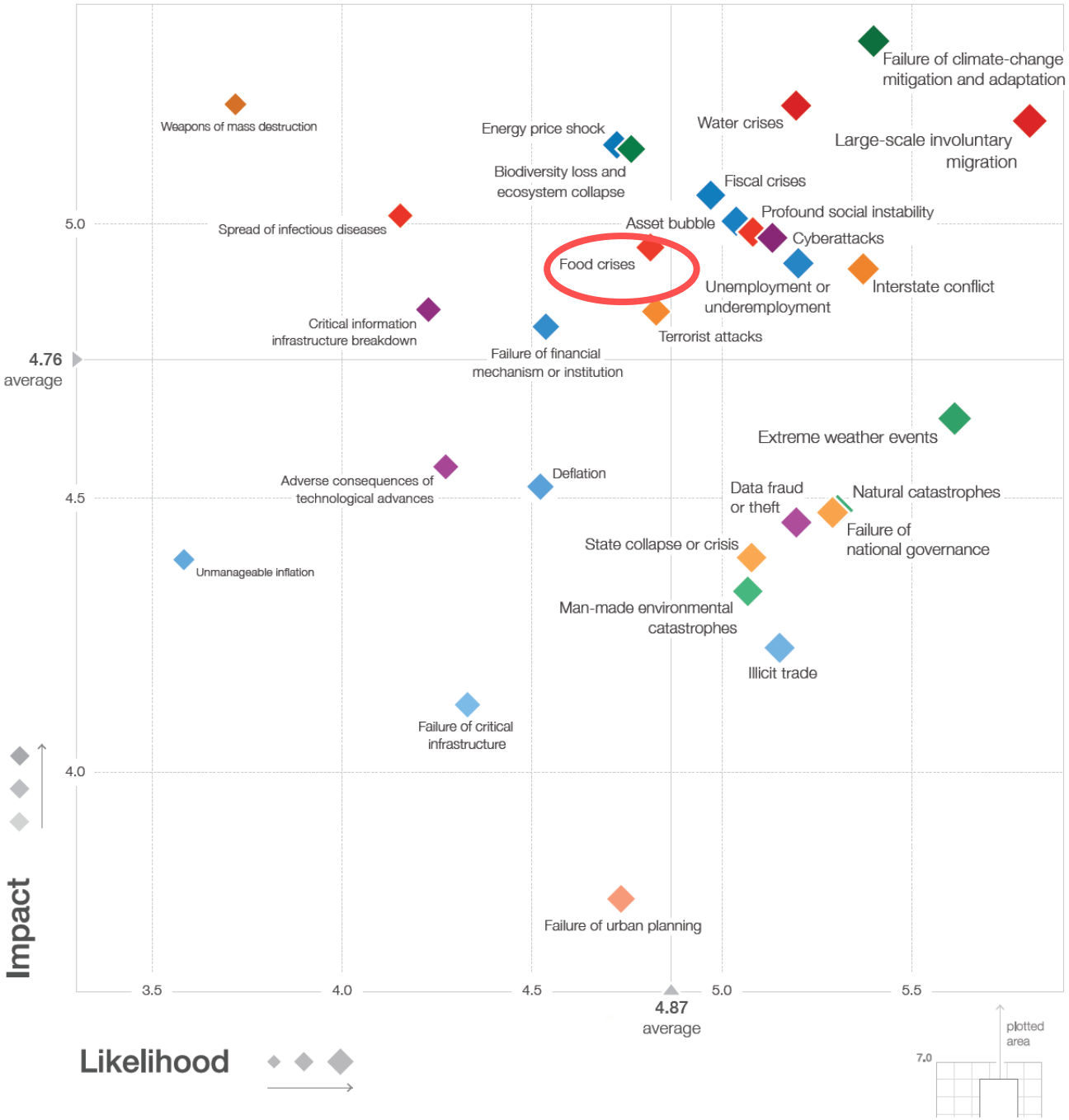
Nervous times = opportunity

Filling the vacuum → organisation

Big thinking not small thinking

Mechanisms

WEF *Global Risks 2016*



Top risks (likely impact):

1. climate
2. weapons
3. water
4. migration

- Economic
- Environmental
- Geopolitical
- Societal
- Technological

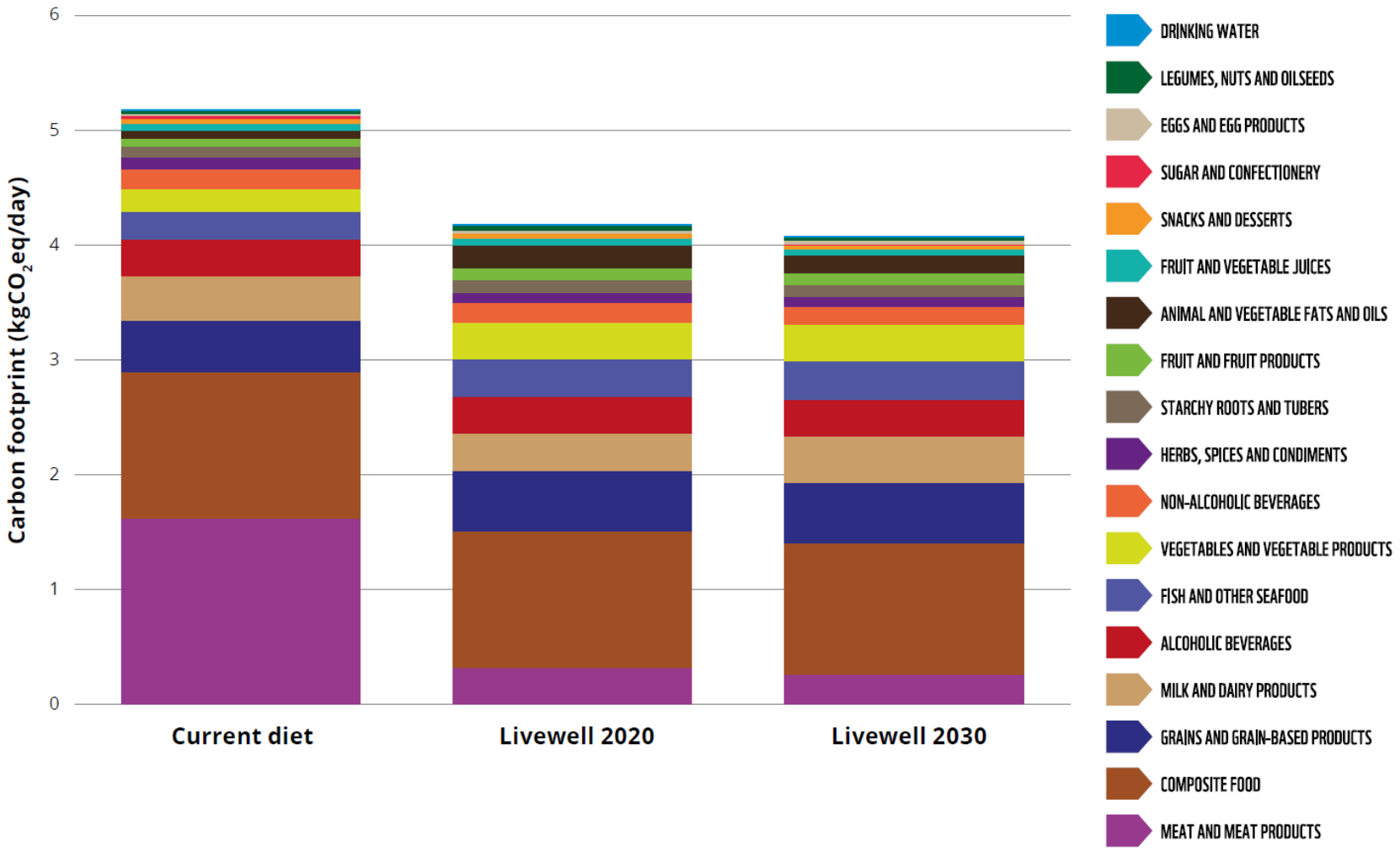
The appeal (& funds) for hi-tech solutions for C 21st food, e.g….

- Lab-based meat
- Nanotechnology
- Synthetic biology
- Industrial insects
- Genetic modification
- Robotics
- Nutrigenomics

Are NGOs replacing Govts? eg WWF-UK's Livewell 2 (2017)

https://www.wwf.org.uk/eatingfor2degrees

Figure 2: Breakdown of carbon footprint (GHG emissions) of the current UK diet and adult Livewell Plates



Food Democracy challenge

- Food Democracy *vs* Food Control
- Citizenship *vs* consumerism
- Sustainable diets *vs* eat at libitum

- NEED FOR VISION + DETAIL

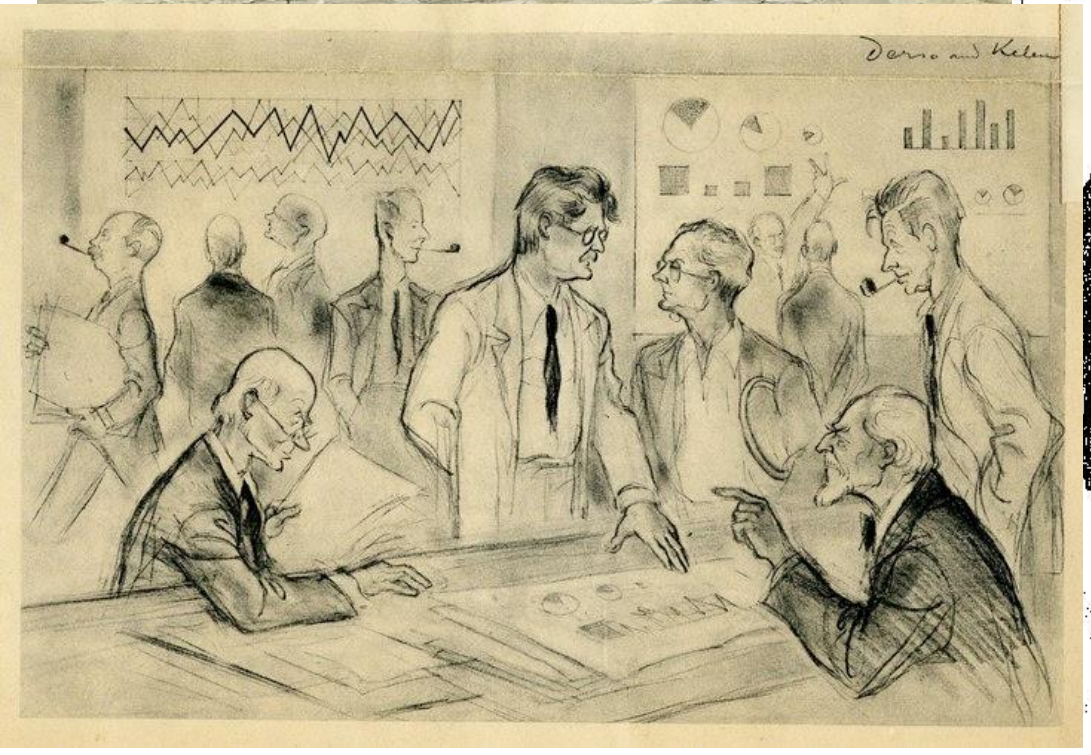
Hot Springs Conference, 1943

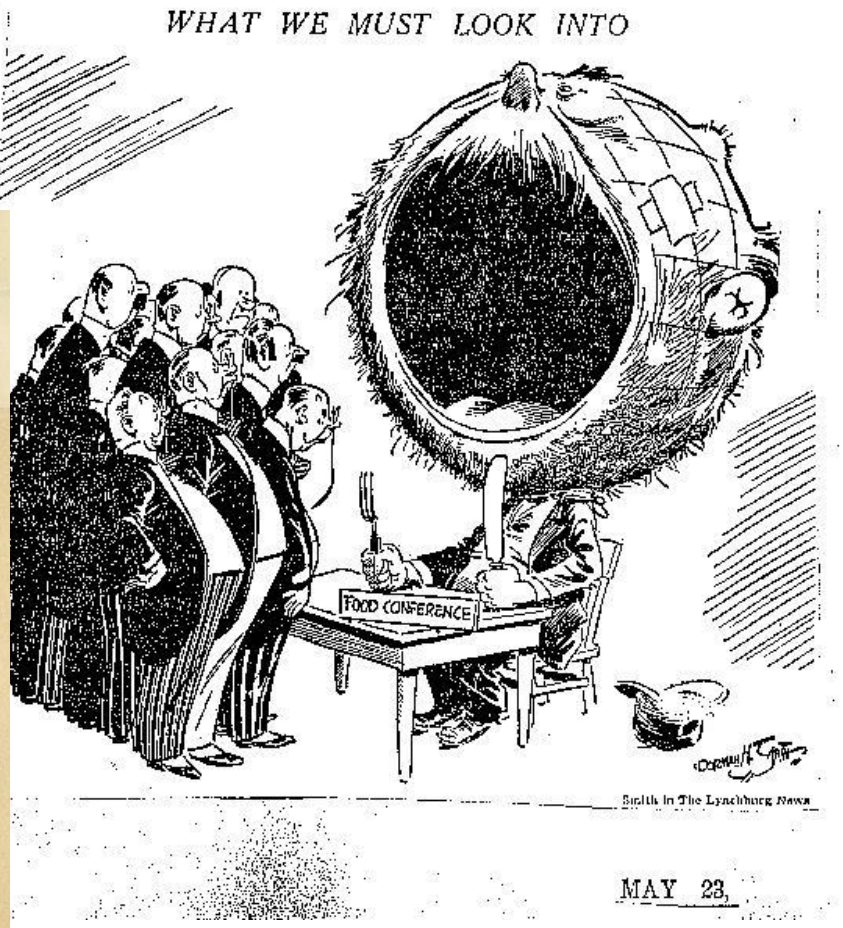
http://www.fao.org/docrep/009/p4228e/P4228E01.htm)

- Called by F D Roosevelt
- Met for 3 weeks
- 44 ‘free’ countries agreed 4 goals:
  I. raise “nutrition and standards of living” of the people
  II. improve efficiency of “the production and distribution of all food and agricultural products
  III. Deliver “better condition of rural populations”
  IV. Contribute to “expanding world economy and ensuring humanity's freedom from hunger”
- Agreed to create FAO (happened Oct 16, 1945)
- 144 countries members by 1979

Hot Springs Conference 1943

source: LSE digital library - UK delegation (pic) & Lionel Robbins (drawing); *Lynchberg News* - US cartoon





Facing policy world dynamics

- It is not neutral
- It is:
  - Multi-level
  - Multi-actor
  - Multi-sector
  - Multi-group
  - Multi-income
  - Multi-culture
  - Etc!

Good things but not joined up

- Global:
  - UN SDGs +
  - TNC worries at macro level
- Regional (EU):
  - EU materialist view of food: circular economy
  - No culture, no health, some enviro
- Member states:
  - Nordics lead but MS resistance
  - Company focus on products not total diet
- Cities
  - Milan Urban Food Policy Pact: 144 cities
  - Problem of resources and power

Macro policy: UN SDGs 2015

12 require nutrition action

http://www.who.int/nutrition/decade-of-action/en/

SDG	*Goal*	*Significance for diet and food*
SDG 1	End poverty	Inequalities determine access to diet; c. 80% of the world's poor are rural, many working on food
SDG 2	End hunger	c. 800 million are hungry; c. 2 billion overweight or obese
SDG 3	Health and well-being	Ensure healthy lives and promote well-being for all at all ages
SDG 6	Clean water	Crops and livestock account for 70% of all water withdrawals
SDG 7	Energy	Food systems use 30% of global energy resources
SDG 12	Sustainable consumption and production	An estimated 30% of food is wasted; changing dietary patterns increase food's footprint
SDG 13	Combat climate change	Diet is a major contributor to climate change, accelerating with the nutrition transition
SDG 14	Oceans, Seas and Marine resources	c.29% of commercially important assessed marine fish stocks are overfished; c.61% are fully fished
SDG 15	Life on land; biodiversity	A third of land is degraded; up to 75% of crop genetic diversity is lost

5. Need for new multi-level Framework

Multi-criteria policy

Simple vs complex approaches

One thing at a time or all?

Simple *vs* complex approaches

SIMPLE: focus on single criteria

- Nutrition + Environment
  e.g. Gussow & Clancy 1986
- Calories + Carbon emissions
  e.g.UK Cabinet Office 2009
- Nutrients + Nitrogen
  e.g. Euro Science Foundation
  Barsac Declaration 2011
- Nutrients + Culture
  e.g. Brazil DGs 2014

Problems

- Choice of criteria?
- Exclusion of others?
- Reliance on proxies?

COMPLEX: use of multiple criteria

- eating within environmental limits / for ecosystems
  e.g. Moore Lappé 1971
- Ecosystems → human health
  e.g. FAO-Bioversity 2010
- Social + quality + health + economic + enviro + governance
  e.g. SDC 2011 →Mason & Lang 2017

Problems

- Translation for consumers?
- Interdisciplinarity?
- Policy engagement?

Food sustainability as a multi-criteria approach

http://www.sd-commission.org.uk/publications.php?id=1187 / Mason & Lang 2017

Quality	Social values
• Taste • Seasonality • Cosmetic • Fresh (where appropriate) • Authenticity	• Pleasure • Identity • Animal welfare • Equality & justice • Trust • Choice • Skills (citizenship)
Environment	**Health**
• Climate change • Energy use • Water • Land use • Soil • Biodiversity • Waste reduction	• Safety • Nutrition • Equal access • Availability • Social status/ affordability • Information & education
Economy	**Governance**
• Food security & resilience • Affordability (price) • Efficiency • True competition & fair returns • Jobs & decent working conditions • Fully internalised costs	• Science & technology evidence base • Transparency • Democratic accountability • Ethical values (fairness) • International aid & development

thanks

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